SEQUENCE LISTING

<110> Cahoon, Rebecca E.
Fang, Yiwen
Odell, Joan
Weng, Zude

<120> Plant Myb Transcription Factor Homologs

<130> BB1294USCNT

<140> US 10/659,869
<141> 2003-09-11

<150> US 10/021,811
<151> 2001-12-14

<150> US 09/452,244
<151> 1999-12-01

<150> US 60/110,609
<151> 1998-12-02

<160> 63

<170> Microsoft Office 97

<210> 1
<211> 771
<212> DNA
<213> Zea mays

<220>
<221> unsure
<222> (4)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (99)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (396)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (470)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (486)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (586)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (600)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (612)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (615)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (627)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (632)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (658)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (690)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (716)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (724)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (736)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (752)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (758)
<223> n is a, c, g or t

<400> 1
caancgcggg attgttcaat ccgttcgaca tcacaaaatc cacgcacaaa gaagcgacag 60
atgactacga gcagggtggc caggtcgtgc ggccgcggna gcgacgatga gccggcggtg 120
cgcaaggggc cgtggacgct ggaggaggac ctcatcctcg tcagctacat ctcccagcac 180
ggggagggct cctgggacaa cctcgcgcgc gcagctggac tgaaccgcaa cggcaagagc 240
tgcaggctgc ggtggctcaa ctacctgagg ccgggggtgc ggcgcggcag catcacggcg 300
ggggaggaca cggtcatccg ggagctccac gcgaggtggg ggaacaagtg gtccaagatc 360
tccaagcacc tccccggccg aaccgacaac gagatnaaga actactggag gaccaggatc 420
caacaagaag aacagcaagg agccaagacg acgcaacaac gggaccgtcn acgaccgcca 480
actccngggc ccggggacga ctactgggtg cacaacccga ccccgacaac aagccatact 540
gcctgcaaaa accccatgca actgcacgcg acaacaaccg gtctcntaac aacaagacan 600
ccccttcggg gnctnacaac cagaaanccc cnccggcggg gaatggtaat cacaacanaa 660
attgtaccct ctgtccaact aactttcccn cggcacataa acgtcggctg accttnacaa 720
tcantcttct ccactnatgc actttgcaac gngtgtantt tgataaacct t 771

<210> 2
<211> 157
<212> PRT
<213> Zea mays

<220>
<221> UNSURE
<222> (111)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (136)
<223> Xaa can be any naturally occurring amino acid

<400> 2
Thr Thr Ser Arg Val Ala Arg Ser Cys Gly Arg Gly Ser Asp Asp Glu
1 5 10 15

Pro Ala Val Arg Lys Gly Pro Trp Thr Leu Glu Glu Asp Leu Ile Leu
20 25 30

Val Ser Tyr Ile Ser Gln His Gly Glu Gly Ser Trp Asp Asn Leu Ala
35 40 45

Arg Ala Ala Gly Leu Asn Arg Asn Gly Lys Ser Cys Arg Leu Arg Trp
50 55 60

Leu Asn Tyr Leu Arg Pro Gly Val Arg Arg Gly Ser Ile Thr Ala Gly
65 70 75 80

Glu Asp Thr Val Ile Arg Glu Leu His Ala Arg Trp Gly Asn Lys Trp
85 90 95

Ser Lys Ile Ser Lys His Leu Pro Gly Arg Thr Asp Asn Glu Xaa Lys
100 105 110

Asn Tyr Trp Arg Thr Arg Ile Gln Gln Glu Glu Gln Gln Gly Ala Lys
115 120 125

Thr Thr Gln Gln Arg Asp Arg Xaa Arg Pro Pro Thr Pro Gly Pro Gly
130 135 140

Asp Asp Tyr Trp Val His Asn Pro Thr Pro Thr Thr Ser
145 150 155

<210> 3
<211> 782
<212> DNA
<213> Zea mays

<220>
<221> unsure
<222> (3)
<223> n is a, c, g or t

<400> 3
acngtctgct gcaggtacgg gccgtaatcc gggtcgacca cgcgtcccga caaagtggca 60
tactcttctc tgtactagct ttcttcttcc tctcctcttc ctcacaaaca gactggattt 120
caacaagata atcctgaaac tggagccaac aagcacacag agaaagaaga gcaagaagac 180
cggctcccag ccgatacaag gtaggagtga gcagcgttag tttcatcata tcgcataggc 240
gatatggtga cagtgagaga ggagactcgc aaggggccat ggacagagca ggaggacctg 300
caactggtat gcactgtccg tctgttcggt gaacgtcgtt gggatttcat tgccaaagta 360
tcaggactca accggacagg caagagctgc cggctgcggt gggtcaacta cctccaccct 420
ggcctcaagc gtgggcgcat gtctccccat gaagagcgcc tcatccttga gctgcacgct 480
cggtggggaa acaggtggtc caggatagca cggcgcttgc cagggcgcac tgacaatgag 540
atcaagaact actggaggac acacatgagg aagaaagcac aggagaggaa gaggaacatg 600
tctccatcat catcctcatc ttcactgagt taccagtcag gctacccaga tactccatca 660
atcattggag ttaagggaca ggagcttcat ggtggcagtg gctgcatcac aagcatcctg 720
aagggcaccc atccggacat ggatggctat cccatggacc agatatggat ggaattgaag 780
gg 782

<210> 4
<211> 179
<212> PRT
<213> Zea mays

<400> 4
Met Val Thr Val Arg Glu Glu Thr Arg Lys Gly Pro Trp Thr Glu Gln
1 5 10 15

Glu Asp Leu Gln Leu Val Cys Thr Val Arg Leu Phe Gly Glu Arg Arg
20 25 30

Trp Asp Phe Ile Ala Lys Val Ser Gly Leu Asn Arg Thr Gly Lys Ser
35 40 45

Cys Arg Leu Arg Trp Val Asn Tyr Leu His Pro Gly Leu Lys Arg Gly
50 55 60

Arg Met Ser Pro His Glu Glu Arg Leu Ile Leu Glu Leu His Ala Arg
65 70 75 80

Trp Gly Asn Arg Trp Ser Arg Ile Ala Arg Arg Leu Pro Gly Arg Thr
85 90 95

Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr His Met Arg Lys Lys Ala
100 105 110

Gln Glu Arg Lys Arg Asn Met Ser Pro Ser Ser Ser Ser Ser Ser Leu
115 120 125

Ser Tyr Gln Ser Gly Tyr Pro Asp Thr Pro Ser Ile Ile Gly Val Lys
130 135 140

Gly Gln Glu Leu His Gly Gly Ser Gly Cys Ile Thr Ser Ile Leu Lys
145 150 155 160

Gly Thr His Pro Asp Met Asp Gly Tyr Pro Met Asp Gln Ile Trp Met
165 170 175

Glu Leu Lys

<210> 5
<211> 601
<212> DNA
<213> Zea mays

<220>
<221> unsure
<222> (451)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (456)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (478)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (480)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (490)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (510)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (542)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (549)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (552)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (554)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (572)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (578)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (583)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (588)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (595)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (601)
<223> n is a, c, g or t

<400> 5
aaccgccgat catcggctat acctaccagc tcgctgttct tgctgaagcc ctggagctat 60
atagcttcga tctgcgcagc acaggttgtc tgtcgactag tgattagtga agaagatggc 120
ggcgcgtgac caccgagagc tgagcggcga cgaggactcc gtggtggcgg ccggagacct 180
ccgccgcggg ccgtggacgg tggaggagga catgctcctc gtcaactacg tcgccgcgca 240
cggcgagggc cgctggaacg cgctggcacg atgcgcaggg ctccggcgga cggggaagag 300
ctgccgcctg cggtggctca actacctgcg gccggacctg cggcggggca acatcacggc 360
gcaagagcaa ctgctcatcc tggagctgca ctcccgctgg ggcaaccgct ggtcaagatc 420
gcgcagcacc tccaagggca acgacaacga natcanaact actggcgcac cggttcanan 480
cacccagcan ctcaatgcaa ctcaaagcan cgctcaagga ctcagcgcta atctggatgc 540
gngctcccna angnaccgtc gacatccggg angggctnct ttngagcnca cccancaaac 600
n 601

<210> 6
<211> 120
<212> PRT
<213> Zea mays

<220>
<221> UNSURE
<222> (101)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (113)..(114)
<223> Xaa can be any naturally occurring amino acid

<400> 6
Met Ala Ala Arg Asp His Arg Glu Leu Ser Gly Asp Glu Asp Ser Val

```
  1               5                  10                  15

Val Ala Ala Gly Asp Leu Arg Arg Gly Pro Trp Thr Val Glu Glu Asp
            20                  25                  30

Met Leu Leu Val Asn Tyr Val Ala Ala His Gly Glu Gly Arg Trp Asn
        35                  40                  45

Ala Leu Ala Arg Cys Ala Gly Leu Arg Arg Thr Gly Lys Ser Cys Arg
    50                  55                  60

Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp Leu Arg Arg Gly Asn Ile
65                  70                  75                  80

Thr Ala Gln Glu Gln Leu Leu Ile Leu Glu Leu His Ser Arg Trp Gly
                85                  90                  95

Asn Arg Trp Ser Xaa Ile Ala Gln His Leu Gln Gly Gln Arg Gln Arg
            100                 105                 110

Xaa Xaa Asn Tyr Trp Arg Thr Gly
        115                 120
```

<210> 7
<211> 547
<212> DNA
<213> Zea mays

<220>
<221> unsure
<222> (356)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (374)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (479)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (508)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (532)
<223> n is a, c, g or t

<400> 7

```
ccgataccgg cctcaacgcc ctctttttcc cagcctcaca accaattcct gtttcagtcg  60
atcgcagtta gcatggccac gacacagagc tgtcagagca ggagcagcgc ctgcagcaag 120
gctgctgctt gcttcccggc cgccgtagcg gtcgacgagg agcacggcca ccacagccac 180
cagctgaagg gaggagcgca ggaggaggct gagaacgaca ataataagcc ggagctccgg 240
cgtggccccc ggacggtaga cgaggacctc accctcgtca actacatcgc cgacaacggc 300
gagggtcccc ggaacaacct cgcccgcgcc gccgggctga agcggacggg caaganctgc 360
cggctgcggt ggcncaacta cctccggccc gacgtgaagc gtgggaactt cagcgccgac 420
```

gagcagctgc tcatctcgac ctcacaccgc tggggcaacc gatgtcgaag atagcgcanc 480
acctgccggg aaggacggca acgagatnaa gaactactgg aggaccgggt gnataacacg 540
caagatc 547

<210> 8
<211> 72
<212> PRT
<213> Zea mays

<220>
<221> UNSURE
<222> (42)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (48)
<223> Xaa can be any naturally occurring amino acid

<400> 8
Glu Leu Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Leu Thr Leu Val
1 5 10 15

Asn Tyr Ile Ala Asp Asn Gly Glu Gly Pro Trp Asn Asn Leu Ala Arg
20 25 30

Ala Ala Gly Leu Lys Arg Thr Gly Lys Xaa Cys Arg Leu Arg Trp Xaa
35 40 45

Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn Phe Ser Ala Asp Glu
50 55 60

Gln Leu Leu Ile Ser Thr Ser His
65 70

<210> 9
<211> 1317
<212> DNA
<213> Zea mays

<400> 9
gcacgagccg ataccggcct caacgccctc tttttcccag cctcacaacc aattcctgtt 60
tcagtcgatc gcagttagca tggccacgac acagagctgt cagagcagga gcagcgcctg 120
cagcaaggct gctgcttgct tcccggccgc cgtagcggtc gacgaggagc acggccacca 180
cagccaccag ctgaagggag gagcgcagga ggaggctgag aacgacaata ataagccgga 240
gctccggcgt ggcccctgga cggtagacga ggacctcacc ctcgtcaact acatcgccga 300
caacggcgag ggtcgctgga acaacctcgc ccgcgccgcc gggctgaagc ggacgggcaa 360
gagctgccgg ctgcggtggc tcaactacct ccggcccgac gtgaagcgtg gcaacttcag 420
cgccgacgag cagctgctca tcctcgacct ccacacccgc tggggcaacc gatggtcgaa 480
gatagcgcag cacctgccgg gaaggacgga caacgagatc aagaactact ggaggacccg 540
ggtgcagaag cacgccaagc agctcaactg cgacgccaac agcaagcgct tcaaggacgc 600
catgcgctac ctctggatgc cgcacctcgc cgacgacgtc gataccatcg ctgcggccaa 660
cgacgacgac gaagaccacc accacaacct acgcctcctc gtcctgcacc accaccaggc 720
ccagcacctg cagcaagctg ctgccgcggc cggcggcgct gccaacgacc ttgctgcggg 780
cgcctacgac gtccgccagc tgcacgcgct gccgtcgtcg ggcatggcgg cgacgtcgtc 840
gtccgactcg ctcgcgtcgg agtcgtacga tgacggaggc ctgcttttcg cgaacttgcg 900
cgccggcgag atgctgatgg acggcggaga ttgggcggcg cagcaggagg ccgaccaagg 960
gctgtggccg ccgccgccgc cgccgccgtc tgatcttgat cagtcggtgg tgcaggctgc 1020
tggtgccggc gctggccagt ttcaggacat ggagctcagt ggttgggtgc aaggcttctc 1080
cgagagcatt acagataact tttgggcctt ggaggaaatt tggaagatgc aatgagcgag 1140
caattttaca tcttacacat ccatccaaat taaagacaac atagatacac atatacatat 1200

catatattct aacaacaggt gccatatacg atatacatac acaagttgtt gtatagttgt 1260
attccgctta tatatatatt ttttttgcct ctcaaaaaaa aaaaaaaaaa aaaaaaa 1317

<210> 10
<211> 351
<212> PRT
<213> Zea mays

<400> 10
Met Ala Thr Thr Gln Ser Cys Gln Ser Arg Ser Ser Ala Cys Ser Lys
1 5 10 15

Ala Ala Ala Cys Phe Pro Ala Ala Val Ala Val Asp Glu Glu His Gly
20 25 30

His His Ser His Gln Leu Lys Gly Gly Ala Gln Glu Glu Ala Glu Asn
35 40 45

Asp Asn Asn Lys Pro Glu Leu Arg Arg Gly Pro Trp Thr Val Asp Glu
50 55 60

Asp Leu Thr Leu Val Asn Tyr Ile Ala Asp Asn Gly Glu Gly Arg Trp
65 70 75 80

Asn Asn Leu Ala Arg Ala Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys
85 90 95

Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn
100 105 110

Phe Ser Ala Asp Glu Gln Leu Leu Ile Leu Asp Leu His Thr Arg Trp
115 120 125

Gly Asn Arg Trp Ser Lys Ile Ala Gln His Leu Pro Gly Arg Thr Asp
130 135 140

Asn Glu Ile Lys Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys
145 150 155 160

Gln Leu Asn Cys Asp Ala Asn Ser Lys Arg Phe Lys Asp Ala Met Arg
165 170 175

Tyr Leu Trp Met Pro His Leu Ala Asp Asp Val Asp Thr Ile Ala Ala
180 185 190

Ala Asn Asp Asp Asp Glu Asp His His His Asn Leu Arg Leu Leu Val
195 200 205

Leu His His His Gln Ala Gln His Leu Gln Gln Ala Ala Ala Ala Ala
210 215 220

Gly Gly Ala Ala Asn Asp Leu Ala Ala Gly Ala Tyr Asp Val Arg Gln
225 230 235 240

Leu His Ala Leu Pro Ser Ser Gly Met Ala Ala Thr Ser Ser Ser Asp
245 250 255

Ser Leu Ala Ser Glu Ser Tyr Asp Asp Gly Gly Leu Leu Phe Ala Asn
260 265 270

Leu Arg Ala Gly Glu Met Leu Met Asp Gly Gly Asp Trp Ala Ala Gln

```
        275                 280                 285

Gln Glu Ala Asp Gln Gly Leu Trp Pro Pro Pro Pro Pro Pro Pro Ser
    290                 295                 300

Asp Leu Asp Gln Ser Val Val Gln Ala Ala Gly Ala Gly Ala Gly Gln
305                 310                 315                 320

Phe Gln Asp Met Glu Leu Ser Gly Trp Val Gln Gly Phe Ser Glu Ser
                325                 330                 335

Ile Thr Asp Asn Phe Trp Ala Leu Glu Glu Ile Trp Lys Met Gln
            340                 345                 350
```

<210> 11
<211> 488
<212> DNA
<213> Oryza sativa

<400> 11
ggttcgtgcg gctgctgggc gaacggcggt gggatttctt agcaaaggtg tcaggtttgc 60
gcggcggcgg gtgatgagca tatgcgtgcg tgcatctaat ctatcgatta attgttgatg 120
atgtcgatca gatggatgga tgcatgcata tgccgtacat agtagatttg atgatagtaa 180
ctgacataaa tataatgtat gcgtgcgatc aacgctggtt gttggatcgt ccgtcgtgtg 240
tatgggtggt gtgtggctga tgcaggtttg cagcgcagcg ggaagagctg ccgtctccgg 300
tgggtgaact acctgcatcc agggctgaag cgagggagga tgagccccga ggaggagagg 360
atggtggtgc agctccacgc caagctcggc aacaggtggt ctcgcatcgc caagagcatt 420
cctggccgca ccgacaacga gatcaagaac tactggcgca cccacctgcg caagctcaag 480
ctcaaaca 488

<210> 12
<211> 71
<212> PRT
<213> Oryza sativa

<400> 12
```
Val Tyr Gly Trp Cys Val Ala Asp Ala Gly Leu Gln Arg Ser Gly Lys
  1               5                  10                  15

Ser Cys Arg Leu Arg Trp Val Asn Tyr Leu His Pro Gly Leu Lys Arg
             20                  25                  30

Gly Arg Met Ser Pro Glu Glu Glu Arg Met Val Val Gln Leu His Ala
         35                  40                  45

Lys Leu Gly Asn Arg Trp Ser Arg Ile Ala Lys Ser Ile Pro Gly Arg
     50                  55                  60

Thr Asp Asn Glu Ile Lys Asn
 65                  70
```

<210> 13
<211> 1123
<212> DNA
<213> Oryza sativa

<400> 13
gcattctttt tctgcatcat catcgtcgtc ttcgtcttct tcttgttcag tagtgcagct 60
gggtcatcat cagcgcccac agggtgagga ccctctcatc ggcatcaaag cagcagcagc 120
aggaggagga ggaataatga gaaagggccc gtggacggag caggaggacg tgcagttggt 180
ttggttcgtg cggctgctgg gcgaacggcg gtgggatttc ttagcaaagg tgtcaggttt 240

```
gcagcgcagc gggaagagct gccgtctccg gtgggtgaac tacctgcatc cagggctgaa  300
gcgagggagg atgagccccg aggaggagag gatggtggtg cagctccacg ccaagctcgg  360
caacaggtgg tctcgcatcg ccaagagcat tcctggccgc accgacaacg agatcaagaa  420
ctactggcgc acccacctgc gcaagctcaa gctcaaacag caaaagcagc agcagtccga  480
cgaccaccac aacgacaacg acgacgacga cgaccgcaac tcctcctcct cttcgtcctc  540
ctccaacagc aacagcaacc tgcagcagca gccgcagcca gaggatgagt cgtcggccag  600
tggcagcctg caggcccaac atcatgagga ccagcaccaa ctgttccttc atcctctctg  660
gaacgacgac atcatcgtcg acgtcgactg ctggagcagc agcaccaacg tcgtcgctcc  720
gccgccgatg cccgcctcgc cgctctggga tatcgatgac gccttcttct gctcggatta  780
ttcgctacct ctctggggat agtatatatc atccatcagc cgccaagacg atgacgacta  840
catcaactcg atcgatcgat gcctcctaat catgtgggag tactcagctc atctcaattg  900
ttacatcctt gctacagctg ctaattactg taattactag cttgcatata gggatcgacg  960
gaggaattaa tatatacatg ttagtaactc gttctatagc gcaacttgca gttgcatctc 1020
aatctctgat cagtactata taaatatata tatatatgta acagctgcta gctatagcta 1080
gctgcgtaca catccatatg aatgtgtgtg tgttcatgct aaa                    1123
```

<210> 14
<211> 221
<212> PRT
<213> Oryza sativa

<400> 14

```
Met Arg Lys Gly Pro Trp Thr Glu Gln Glu Asp Val Gln Leu Val Trp
  1               5                  10                  15

Phe Val Arg Leu Leu Gly Glu Arg Arg Trp Asp Phe Leu Ala Lys Val
             20                  25                  30

Ser Gly Leu Gln Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp Val Asn
         35                  40                  45

Tyr Leu His Pro Gly Leu Lys Arg Gly Arg Met Ser Pro Glu Glu Glu
     50                  55                  60

Arg Met Val Val Gln Leu His Ala Lys Leu Gly Asn Arg Trp Ser Arg
 65                  70                  75                  80

Ile Ala Lys Ser Ile Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
                 85                  90                  95

Trp Arg Thr His Leu Arg Lys Leu Lys Leu Lys Gln Gln Lys Gln Gln
            100                 105                 110

Gln Ser Asp Asp His His Asn Asp Asn Asp Asp Asp Asp Asp Arg Asn
        115                 120                 125

Ser Ser Ser Ser Ser Ser Ser Ser Asn Ser Asn Ser Asn Leu Gln Gln
    130                 135                 140

Gln Pro Gln Pro Glu Asp Glu Ser Ser Ala Ser Gly Ser Leu Gln Ala
145                 150                 155                 160

Gln His His Glu Asp Gln His Gln Leu Phe Leu His Pro Leu Trp Asn
                165                 170                 175

Asp Asp Ile Ile Val Asp Val Asp Cys Trp Ser Ser Ser Thr Asn Val
            180                 185                 190

Val Ala Pro Pro Pro Met Pro Ala Ser Pro Leu Trp Asp Ile Asp Asp
        195                 200                 205
```

```
Ala Phe Phe Cys Ser Asp Tyr Ser Leu Pro Leu Trp Gly
    210                 215                 220

<210> 15
<211> 336
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (308)
<223> n is a, c, g or t

<400> 15
tctggagttg atcaaggctc taaacgtgaa gctggagcca acaaactcaa agaggaagaa  60
gaacacggag agtggctccc atcctatcca aggtaagaag tgaacaacgt tagcattgca 120
acatcccaag ccccaatatg gtgacagtga gagaggagat gcgcaaggga ccatggacag 180
agcaggagga cctgcaactg gtatgcactg tccgcctgtt cggtgaccgc cgttgggatt 240
tcgttgccaa agtatcaggt ttgaggggggc tcaataggac aggcaagagc tgccgcctcc 300
gttgggtnaa ctaactccaa ccctgggcct caagca                           336

<210> 16
<211> 62
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (59)
<223> Xaa can be any naturally occurring amino acid

<400> 16
Met Val Thr Val Arg Glu Glu Met Arg Lys Gly Pro Trp Thr Glu Gln
  1               5                  10                  15

Glu Asp Leu Gln Leu Val Cys Thr Val Arg Leu Phe Gly Asp Arg Arg
             20                  25                  30

Trp Asp Phe Val Ala Lys Val Ser Gly Leu Arg Gly Leu Asn Arg Thr
         35                  40                  45

Gly Lys Ser Cys Arg Leu Arg Trp Val Asn Xaa Leu Gln Pro
     50                  55                  60

<210> 17
<211> 587
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (577)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (582)..(583)
<223> n is a, c, g or t

<220>
<221> unsure
```

<222> (587)
<223> n is a, c, g or t

<400> 17
ctctactaca cacttgctct gcccgatgat gatggcgcga gaggtgagca gcgaggagga 60
ggctggcggc ggcgacgagc tccggcgagg gccgtggacg gtggaggagg acctgctcct 120
cgtcaactac atcgccgccc atggcgaggg ccgctggaac gcgctcgcgc gctgcgccgg 180
gctgaagcgg acggggaaga gctgccggct gcggtggctg aactacctga ggccggacgt 240
gaggaggggg aacatgacgg cggaggagca gctgctgata ctggagctcc atgggcggtg 300
ggggaatcgg tggagcaaga tcgcgcagca tctccccggc cgcaccgaca acgagatcaa 360
gaactactgg cgcacccgcg tccagaagca cgccaagcac ctcaactgcg acgtcaactc 420
ccagcagttc aaggacctca tgcgctacct ctggatgccc gcctcctcga acgcatcaac 480
gctcctccca atccaatcca cgacccgacg acccgactct cgtctccgcc gcacactgat 540
cactcgactc tctcacgcca taacgccgct cgcatgncga annacan 587

<210> 18
<211> 145
<212> PRT
<213> Oryza sativa

<400> 18
Met Met Met Ala Arg Glu Val Ser Ser Glu Glu Glu Ala Gly Gly Gly
1 5 10 15

Asp Glu Leu Arg Arg Gly Pro Trp Thr Val Glu Glu Asp Leu Leu Leu
20 25 30

Val Asn Tyr Ile Ala Ala His Gly Glu Gly Arg Trp Asn Ala Leu Ala
35 40 45

Arg Cys Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp
50 55 60

Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Met Thr Ala Glu
65 70 75 80

Glu Gln Leu Leu Ile Leu Glu Leu His Gly Arg Trp Gly Asn Arg Trp
85 90 95

Ser Lys Ile Ala Gln His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys
100 105 110

Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys His Leu Asn Cys
115 120 125

Asp Val Asn Ser Gln Gln Phe Lys Asp Leu Met Arg Tyr Leu Trp Met
130 135 140

Pro
145

<210> 19
<211> 440
<212> DNA
<213> Oryza sativa

<400> 19
gccgccggtc tgaagaggac tgggaagagc tgccggctcc ggtggctgaa ctatctccgg 60
ccggatgtga agcgcggcaa cttcaccgca gaggagcagc tgctcatcct cgacctccac 120
tcccgatggg gcaaccgatg gtccaagata gcacaacatt tgcctgggag gaccgacgac 180
gagatcaaga actactggag gaccagagtg caaaagcatg ccaagcaact caattgtgat 240

gtcaacagca agaggttcaa ggatgccatg aagtacctat ggatgcctcg ccttgccgag 300
cgcatccatg ccagggctgg cgctgttgat gatagcggag actacagcaa caacgactta 360
tcatgtgtat ctggtgtaac aatggccact gttgctaatt gttttgatgg ctctccgagc 420
atggtgacta gctcatcctc 440

<210> 20
<211> 146
<212> PRT
<213> Oryza sativa

<400> 20
Ala Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu
1 5 10 15

Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn Phe Thr Ala Glu Glu
20 25 30

Gln Leu Leu Ile Leu Asp Leu His Ser Arg Trp Gly Asn Arg Trp Ser
35 40 45

Lys Ile Ala Gln His Leu Pro Gly Arg Thr Asp Asp Glu Ile Lys Asn
50 55 60

Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys Gln Leu Asn Cys Asp
65 70 75 80

Val Asn Ser Lys Arg Phe Lys Asp Ala Met Lys Tyr Leu Trp Met Pro
85 90 95

Arg Leu Ala Glu Arg Ile His Ala Arg Ala Gly Ala Val Asp Asp Ser
100 105 110

Gly Asp Tyr Ser Asn Asn Asp Leu Ser Cys Val Ser Gly Val Thr Met
115 120 125

Ala Thr Val Ala Asn Cys Phe Asp Gly Ser Pro Ser Met Val Thr Ser
130 135 140

Ser Ser
145

<210> 21
<211> 640
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (355)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (498)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (534)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (543)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (582)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (597)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (606)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (619)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (634)
<223> n is a, c, g or t

<400> 21
ggcgtacatc catccatcca tccatctatc cagagagcac agcaacggcg catatatagt 60
acccctctac caaagcacaa caaccagaat ctcctgagct cgatctagct actagcttga 120
tctatccgat caatcgactg gcccgcgagg atcgatcgag actcgaaagg gagggatttt 180
gatccggatc ggtcgacgat ggacatggcg cacgagaggg acgcgagcag cgaggaggag 240
gtgatgggcg gcgacctgcg tcgcgggccg tggacggtgg aggaggacct cctgctcgtc 300
aactacatcg ccgcgcacgg cgagggccgc tggaactcgc tcgcccgatc agcanggctg 360
aaacgcacag gcaagagctg ccggctccgg tggctgaact acctccgccc cgacctccgg 420
cgaggcaaca tcacgccgca agagcagctg ctcatcctgg agctgcactc gcggtgggga 480
aaccgctggt ccaagatngc gcagcacctc ccgggaagca ccgacaacga gatnaagaat 540
acnggcgcac gcggtgcaga agcacccaag cagtcaagtg cnactcaaca gcaacantta 600
aggacncatg cgctactcng gatgcccgct cttnagggat 640

<210> 22
<211> 115
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (53)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (100)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (112)

<223> Xaa can be any naturally occurring amino acid

<400> 22
Met Asp Met Ala His Glu Arg Asp Ala Ser Ser Glu Glu Glu Val Met
1 5 10 15

Gly Gly Asp Leu Arg Arg Gly Pro Trp Thr Val Glu Glu Asp Leu Leu
20 25 30

Leu Val Asn Tyr Ile Ala Ala His Gly Glu Gly Arg Trp Asn Ser Leu
35 40 45

Ala Arg Ser Ala Xaa Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg
50 55 60

Trp Leu Asn Tyr Leu Arg Pro Asp Leu Arg Arg Gly Asn Ile Thr Pro
65 70 75 80

Gln Glu Gln Leu Leu Ile Leu Glu Leu His Ser Arg Trp Gly Asn Arg
85 90 95

Trp Ser Lys Xaa Ala Gln His Leu Pro Gly Ser Thr Asp Asn Glu Xaa
100 105 110

Lys Asn Thr
115

<210> 23
<211> 484
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (118)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (298)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (355)..(356)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (374)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (376)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (381)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (386)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (393)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (408)..(409)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (417)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (432)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (453)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (466)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (469)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (476)..(477)
<223> n is a, c, g or t

<400> 23
cttacacctg atcgagatcg agtagtagtg acacgcatac accaccaacc accgccgccc 60
gccgccggcg agctgcagga tggggaggcc gccgtgctgc gacaaggtcg gggtgaanaa 120
ggggccatgg acgccggagg aggacctgat gctggtctcc tacatccagg agcacggcgc 180
cggcaactgg cgcgccgtgc cgacgaacac cgggctgatg cgttgcagca agagctgccg 240
gctccggtgg acgaactacc tcaggccggg gatcaagcgg gggaacttca ccgagcanga 300
ggagaagctc atcgtccacc tccaggctct cctcggcaac cggtgggcaa cgatnncgtc 360
gtacttgccg gganangacg ncaacnacat cangaatact gggaacannc acctcangaa 420
gaactcaaga anatgcaagc caccggaggt ggngaaaaca gcgcgncgnc tcgganngtt 480
gcgg 484

<210> 24
<211> 126
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (13)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (73)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (92)..(93)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (99)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (101)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (103)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (105)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (110)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (113)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (118)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (125)
<223> Xaa can be any naturally occurring amino acid

<400> 24
Met Gly Arg Pro Pro Cys Cys Asp Lys Val Gly Val Xaa Lys Gly Pro
1 5 10 15

Trp Thr Pro Glu Glu Asp Leu Met Leu Val Ser Tyr Ile Gln Glu His

```
            20                  25                  30

Gly Ala Gly Asn Trp Arg Ala Val Pro Thr Asn Thr Gly Leu Met Arg
         35                  40                  45

Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Gly
     50                  55                  60

Ile Lys Arg Gly Asn Phe Thr Glu Xaa Glu Glu Lys Leu Ile Val His
 65                  70                  75                  80

Leu Gln Ala Leu Leu Gly Asn Arg Trp Ala Thr Xaa Xaa Ser Tyr Leu
                 85                  90                  95

Pro Gly Xaa Asp Xaa Asn Xaa Ile Xaa Asn Thr Gly Asn Xaa His Leu
            100                 105                 110

Xaa Lys Asn Ser Arg Xaa Cys Lys Pro Pro Glu Val Xaa Lys
        115                 120                 125
```

<210> 25
<211> 1427
<212> DNA
<213> Oryza sativa

<400> 25

```
gcacgagctt acacctgatc gagatcgagt agtagtgaca cgcatacacc accaaccacc   60
gccgcccgcc gccggcgagc tgcaggatgg ggaggccgcc gtgctgcgac aaggtcgggg  120
tgaagaaggg gccatggacg ccggaggagg acctgatgct ggtctcctac atccaggagc  180
acggcgccgg caactggcgc gccgtgccga cgaacaccgg gctgatgcgt tgcagcaaga  240
gctgccggct ccggtggacg aactacctca ggccggggat caagcggggg aacttcaccg  300
agcaggagga gaagctcatc gtccacctcc aggctctcct cggcaaccgg tgggcagcga  360
tagcgtcgta cttgccggag aggacggaca acgacatcaa gaactactgg aacacgcacc  420
tcaagaagaa gctcaagaag atgcaggccg ccggaggtgg ggaagacagc ggcgccgcct  480
cggagggtgg cggcggccgc ggcgacggcg acggcggcgg gaaaagcgtg aaggccgccg  540
cacctaaggg gcagtgggag cggcggctgc agacggacat ccacacggcg cggcaggcgc  600
tgcgcgacgc gctctcgctc gaccaccccg acccgtcgcc ggcgacggcg gcggcggcgg  660
cgacgccagc ggggtcgtcg gcggcgtacg cgtcgagcgc ggacaacatc gcgcggctgc  720
tgcagggctg gatgcgcccg ggcggcggcg gcggcggcaa cggcaagggc cccgaggcgt  780
cggggtcgac ctccacgacg gcgacgacgc agcagcagcc gcagtgctcc ggcgagggcg  840
cggcatccgc gtccgcgtcg gcgagccaga gcggcgccgc cgccgcggcg actgcccaga  900
cgccggagtg ctcgacggag acgagcaaga tggccaccgg cggcggcgcc ggcggccccg  960
cgccggcgtt ctcgatgctg gagagctggc tgctcgacga cggcggcatg gggctcatgg 1020
acgtggtgcc attgggggac cccagtgagt tcttttaagt gtagtacaac caaaattaaa 1080
ttaatcaagt agacagcaag aacaaaaaaa aataatggaa agttgccgag ttaattaatc 1140
aagatgcaac taatcaaagc taattaaaag ggcttcgagt taattctcgg tgatttaaat 1200
cgagtttgca ggtgttgatc tagcttggtt aattaatcct ttcttttgta ggtttttagt 1260
taattagtct ctctgatgat gctagggttt ggaactgatc atatgtaagt taatttatac 1320
taatggtagg cctgtgactt gtgattagtt agtcctgagt ggataaataa agacataaat 1380
gtacatcttt ttaaaagata aaaaaaaaaa aaaaaaaaaa aaaaaaa               1427
```

<210> 26
<211> 323
<212> PRT
<213> Oryza sativa

<400> 26

```
Met Gly Arg Pro Pro Cys Cys Asp Lys Val Gly Val Lys Lys Gly Pro
  1               5                  10                  15

Trp Thr Pro Glu Glu Asp Leu Met Leu Val Ser Tyr Ile Gln Glu His
```

```
            20                  25                  30

Gly Ala Gly Asn Trp Arg Ala Val Pro Thr Asn Thr Gly Leu Met Arg
         35                  40                  45

Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Gly
     50                  55                  60

Ile Lys Arg Gly Asn Phe Thr Glu Gln Glu Glu Lys Leu Ile Val His
 65                  70                  75                  80

Leu Gln Ala Leu Leu Gly Asn Arg Trp Ala Ala Ile Ala Ser Tyr Leu
                 85                  90                  95

Pro Glu Arg Thr Asp Asn Asp Ile Lys Asn Tyr Trp Asn Thr His Leu
            100                 105                 110

Lys Lys Lys Leu Lys Lys Met Gln Ala Ala Gly Gly Gly Glu Asp Ser
        115                 120                 125

Gly Ala Ala Ser Glu Gly Gly Gly Gly Arg Gly Asp Gly Asp Gly Gly
    130                 135                 140

Gly Lys Ser Val Lys Ala Ala Ala Pro Lys Gly Gln Trp Glu Arg Arg
145                 150                 155                 160

Leu Gln Thr Asp Ile His Thr Ala Arg Gln Ala Leu Arg Asp Ala Leu
                165                 170                 175

Ser Leu Asp His Pro Asp Pro Ser Pro Ala Thr Ala Ala Ala Ala Ala
            180                 185                 190

Thr Pro Ala Gly Ser Ser Ala Ala Tyr Ala Ser Ser Ala Asp Asn Ile
        195                 200                 205

Ala Arg Leu Leu Gln Gly Trp Met Arg Pro Gly Gly Gly Gly Gly Gly
    210                 215                 220

Asn Gly Lys Gly Pro Glu Ala Ser Gly Ser Thr Ser Thr Thr Ala Thr
225                 230                 235                 240

Thr Gln Gln Gln Pro Gln Cys Ser Gly Glu Gly Ala Ala Ser Ala Ser
                245                 250                 255

Ala Ser Ala Ser Gln Ser Gly Ala Ala Ala Ala Ala Thr Ala Gln Thr
            260                 265                 270

Pro Glu Cys Ser Thr Glu Thr Ser Lys Met Ala Thr Gly Gly Gly Ala
        275                 280                 285

Gly Gly Pro Ala Pro Ala Phe Ser Met Leu Glu Ser Trp Leu Leu Asp
    290                 295                 300

Asp Gly Gly Met Gly Leu Met Asp Val Val Pro Leu Gly Asp Pro Ser
305                 310                 315                 320

Glu Phe Phe
```

<210> 27
<211> 557

<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (136)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (229)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (271)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (373)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (382)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (386)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (424)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (475)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (493)..(494)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (511)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (520)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (522)

<223> n is a, c, g or t

<220>
<221> unsure
<222> (531)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (536)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (552)..(553)
<223> n is a, c, g or t

<400> 27
tctctctccc ctcttcccca cccaaccttc tctctatcac acacacaaaa caatggataa 60
aaaacaactg tgcaacacgt ctcaagatcc tgaagtgaga aaaggacctt ggacgatgga 120
agaagacttg atcttngatc aactatattg caaatcatgg ggaaggtgtt tggaattctt 180
tggccaaaag ctgctggtct caaacgtacc ggaaagattg ccggctaang tggctaaact 240
acctccgtcc tgatgttaga agagggaata ntacacccga aggaacaact ttgatcatgg 300
agcttcacgc aaagtgggga aacaggtggt ccaaaattgc caagcatcta cctggtagga 360
cagtaatgag atnaagaact antggnggac aaggatcaga agcacatcaa gcaactgaga 420
attnagcaac aatcacataa ctctgagata atgttacaag ctagatacca agttntacaa 480
ggtgaaccat ggnnactatc ccaacctttt naaggaagtn angcatttct naatcnttcc 540
ccaaataacc gnntatc 557

<210> 28
<211> 94
<212> PRT
<213> Glycine max

<220>
<221> UNSURE
<222> (19)..(20)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (51)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (65)
<223> Xaa can be any naturally occurring amino acid

<400> 28
Ser Gln Asp Pro Glu Val Arg Lys Gly Pro Trp Thr Met Glu Glu Asp
1 5 10 15

Leu Ile Xaa Xaa Ile Asn Tyr Ile Ala Asn His Gly Glu Gly Val Trp
20 25 30

Asn Ser Leu Ala Lys Ser Cys Trp Ser Gln Thr Tyr Arg Lys Asp Cys
35 40 45

Arg Leu Xaa Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn
50 55 60

```
Xaa Thr Pro Glu Gly Thr Thr Leu Ile Met Glu Leu His Ala Lys Trp
 65                  70                  75                  80

Asn Arg Trp Ser Lys Ile Ala Lys His Leu Pro Gly Arg Thr
                 85                  90
```

<210> 29
<211> 988
<212> DNA
<213> Glycine max

<400> 29
```
cgcacgagtc tctctcccct cttccccacc caaccttctc tctatcacac acacaaaaca  60
atggataaaa aacaactgtg caacacgtct caagatcctg aagtgagaaa aggaccttgg 120
acgatggaag aagacttgat cttgatcaac tatattgcaa atcatgggga aggtgtttgg 180
aattctttgg ccaaagctgc tggtctcaaa cgtaccggaa agagttgccg gctaaggtgg 240
ctaaactacc tccgtcctga tgttagaaga gggaatatta cacccgagga acaacttttg 300
atcatggagc ttcacgcaaa gtggggaaac aggtggtcca aaattgccaa gcatctacct 360
ggtaggacag ataatgagat caagaactat tggaggacca ggatccagaa gcacatcaag 420
caagctgaga actttcagca acaaatcagc aataactctg agataaatga tcaccaagct 480
agcactagcc atgtttctac catggctgaa cccatggaga cctattctcc acccttttat 540
caaggaatgt tagagccatt ttcttcaatt cagttcccca caattaatcc tgatcaatcc 600
agttgttgta ccaatgacaa caacaacagc attaactatt ggagcatgga ggatatctgg 660
tcaatgcagt tactgaacgg ggattaaata ttgatatatc aagataaacc taaattcttg 720
tataagttcc ataaaacact ggaatgtctc tggcttaaaa catattatta ttaggtttgt 780
ttatataagt agttggatat gtttggtttt gcgtaccatt attagcatat atatatatat 840
ttcaaatgag atgctatgtg cattgtaaaa gatatggtta agaaccacat agtttcaaaa 900
ctcttaaata taattccagt cacttattat aggaagtcta ttattaatta tctccaagat 960
gtttgcttaa aaaaaaaaaa aaaaaaaa                                    988
```

<210> 30
<211> 208
<212> PRT
<213> Glycine max

<400> 30
```
Met Asp Lys Lys Gln Leu Cys Asn Thr Ser Gln Asp Pro Glu Val Arg
  1               5                  10                  15

Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile
             20                  25                  30

Ala Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly
         35                  40                  45

Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
     50                  55                  60

Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu
 65                  70                  75                  80

Ile Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala
                 85                  90                  95

Lys His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg
            100                 105                 110

Thr Arg Ile Gln Lys His Ile Lys Gln Ala Glu Asn Phe Gln Gln Gln
        115                 120                 125
```

```
Ile Ser Asn Asn Ser Glu Ile Asn Asp His Gln Ala Ser Thr Ser His
    130                 135                 140

Val Ser Thr Met Ala Glu Pro Met Glu Thr Tyr Ser Pro Pro Phe Tyr
145                 150                 155                 160

Gln Gly Met Leu Glu Pro Phe Ser Ser Ile Gln Phe Pro Thr Ile Asn
                165                 170                 175

Pro Asp Gln Ser Ser Cys Cys Thr Asn Asp Asn Asn Asn Ser Ile Asn
            180                 185                 190

Tyr Trp Ser Met Glu Asp Ile Trp Ser Met Gln Leu Leu Asn Gly Asp
        195                 200                 205
```

<210> 31
<211> 530
<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (301)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (356)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (388)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (393)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (470)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (485)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (495)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (513)
<223> n is a, c, g or t

<220>

<221> unsure
<222> (517)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (522)
<223> n is a, c, g or t

<400> 31
aaaataatgg acaagaagct tggcaacacg tctcatgatc ctgaagtgag aaaggggcca 60
tggacaatgg aagaagactt aatcttgatc acctatattg ccaatcacgg ggaaggggtt 120
tggaactctt tggccaaggc tgctggactt aaacgtaccg gaaagagttg ccggctccgg 180
tggctaaact acctccgtcc tgatgttaga agagggaata ttacacccga ggaacagctt 240
ttgatcatgg aacttcatgc aaagtgggga aacaggtggt ccaaaattgc caagcatcta 300
nccggaagga ctgataatga gattaagaac tactggagga caaggatcaa gaacanctca 360
agcaagcctt caacaacttc aacaacanag tantaattct gagataattt acatcccaag 420
cttgcacaac caattgtcaa caatgggcaa cccaaaaaaa ctaatctcan caatttcaag 480
gaagnttatt cattnaatca attccaaaaa ccncacntct antgtttcaa 530

<210> 32
<211> 204
<212> PRT
<213> Glycine max

<400> 32
Met Asp Lys Lys Leu Gly Asn Thr Ser His Asp Pro Glu Val Arg Lys
1 5 10 15

Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Thr Tyr Ile Ala
20 25 30

Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly Leu
35 40 45

Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg
50 55 60

Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile
65 70 75 80

Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys
85 90 95

His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr
100 105 110

Arg Ile Gln Lys His Leu Lys Gln Ala Ser Ser Ser Phe Gln Gln Gln
115 120 125

Ser Ser Asn Ser Glu Ile Ile Tyr His Pro Gln Ala Cys Thr Ser Gln
130 135 140

Val Ser Thr Met Ala Gln Pro Ile Glu Thr Tyr Ser Pro Pro Ser Tyr
145 150 155 160

Gln Gly Met Leu Asp Pro Phe Ser Ile Gln Phe Pro Thr Asn Pro His
165 170 175

His Ser Ser Cys Cys Thr Asn Asp Asp Asp Asn Asn Asn Tyr Trp Ser
180 185 190

Met Glu Asp Ile Trp Ser Met Gln Leu Ala Asn Tyr
195 200

<210> 33
<211> 910
<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (798)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (807)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (814)
<223> n is a, c, g or t

<400> 33
tctctctctc tctctctcta gcgtgcacac aaaataatgg acaaaaaacc atgcgactca 60
tctcatgatc cagaagtgag aaagggacca tggatcatgg aagaagactt gatcttgata 120
aactatattg caaatcacgg tgaaggtgtt tggaattctt tagccaaagc ttctggtctt 180
aaacgaacgg gaaagagttg tcgactccgt tggctaaact accttcgtcc tgatgttaga 240
agaggaaaca ttacacccga agaacagctt ttgatcatag aacttcatgc aaagtggggc 300
aataggtggt ccaaaattgc aaagcatctt ccaggaagaa ctgacaatga gattaagaac 360
ttctggagaa ctaggatcca gaagcacatt aagcaagctg agacttcaca acaacatggt 420
aattcatcag agaatagtaa taatgatcat caagcaagca atagcactag caaggtgtcc 480
accatggcac atccaaatga gactttctct tcaccctcat accaagcaac ttttgagcca 540
tttcaacctc aattcctaca atcaatgatc aatcaagttg ttgtaccagc aacaacaact 600
attggagcat cgaggatatc tggtcgtcta tgcaattact caatggagat waattaaatc 660
tagctatatg catgcttata taaatcatat atgtgatgat atataaacct aagctcttat 720
tgagtgtggt caggcttaat aacatcatta ggtctggtat atatgagtag gttaagattg 780
gtgtgcatgc ctaaatgnag tattgcntta ttgnagtaag aataactagt tatggatgcc 840
tttaaaaaaa agttagttat gaattgaaat atatagtaac ttatatacta aaaaaaaaaa 900
aaaaaaaaaa 910

<210> 34
<211> 206
<212> PRT
<213> Glycine max

<400> 34
Met Asp Lys Lys Pro Cys Asp Ser Ser His Asp Pro Glu Val Arg Lys
1 5 10 15

Gly Pro Trp Ile Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile Ala
20 25 30

Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ser Gly Leu
35 40 45

Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg
50 55 60

Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile

```
 65                  70                  75                  80

Ile Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys
                85                  90                  95

His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe Trp Arg Thr
            100                 105                 110

Arg Ile Gln Lys His Ile Lys Gln Ala Glu Thr Ser Gln Gln His Gly
        115                 120                 125

Asn Ser Ser Glu Asn Ser Asn Asn Asp His Gln Ala Ser Asn Ser Thr
    130                 135                 140

Ser Lys Val Ser Thr Met Ala His Pro Asn Glu Thr Phe Ser Ser Pro
145                 150                 155                 160

Ser Tyr Gln Ala Thr Phe Glu Pro Phe Gln Pro Gln Phe Leu Gln Ser
                165                 170                 175

Met Ile Asn Gln Val Val Val Pro Ala Thr Thr Thr Ile Gly Ala Ser
            180                 185                 190

Arg Ile Ser Gly Arg Leu Cys Asn Tyr Ser Met Glu Ile Asn
        195                 200                 205
```

<210> 35
<211> 863
<212> DNA
<213> Glycine max

<400> 35
```
gcacgagctc tatcacacac acaagtcaat ggataaaaaa caacagtgta agacgtctca  60
agatcctgaa gtgagaaaag ggccttggac aatggaagaa gacttgatct tgatgaacta 120
tattgcaaat catggggaag gtgtttggaa ctctttggcc aaagctgctg gtctcaaacg 180
taacggaaag agttgccggc taaggtggct aaattacctc cgtcctgatg ttagaagagg 240
gaatattaca cccgaggaac aacttttgat tatggagctc cacgcaaagt ggggaaacag 300
gtggtccaaa attgccaagc atctacctgg aaggactgat aatgagatca agaactattg 360
gaggacaagg atccagaagc acatcaagca agctgagaac tttcagcaac agagtagtaa 420
taattctgag ataaatgatc accaagctag cactagccat gtttccacca tggctgagcc 480
catggagatg tattctccac cctgttatca aggaatgtta gagccatttt caactcagtt 540
ccctacaatt aatcctgatc aatccagttg ttgtaccaat gacaacaaca acattaacta 600
ttggagcatg gaggatagct ggtcaatgca attactgaac ggtgattaaa tattatcaag 660
ataaaaccta agttytgaag ttccataagg ctggaatgtc tytggattaa aacatattat 720
tgggtttgtt tatataagta gttggatgtt tggttttgcg taccattatt agctatgtgc 780
tgtaatatat acgagatytt atattaaact atatctgcat gctttatata taaaaaaaaa 840
aaaaaaaaaa aaaaaaaaaa aaa                                        863
```

<210> 36
<211> 206
<212> PRT
<213> Glycine max

<400> 36
```
Met Asp Lys Lys Gln Gln Cys Lys Thr Ser Gln Asp Pro Glu Val Arg
  1               5                  10                  15

Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Met Asn Tyr Ile
             20                  25                  30

Ala Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly
```

```
         35                  40                  45

Leu Lys Arg Asn Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
     50                  55                  60

Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu
 65                  70                  75                  80

Ile Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala
                 85                  90                  95

Lys His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg
            100                 105                 110

Thr Arg Ile Gln Lys His Ile Lys Gln Ala Glu Asn Phe Gln Gln Gln
        115                 120                 125

Ser Ser Asn Asn Ser Glu Ile Asn Asp His Gln Ala Ser Thr Ser His
    130                 135                 140

Val Ser Thr Met Ala Glu Pro Met Glu Met Tyr Ser Pro Pro Cys Tyr
145                 150                 155                 160

Gln Gly Met Leu Glu Pro Phe Ser Thr Gln Phe Pro Thr Ile Asn Pro
                165                 170                 175

Asp Gln Ser Ser Cys Cys Thr Asn Asp Asn Asn Asn Ile Asn Tyr Trp
            180                 185                 190

Ser Met Glu Asp Ser Trp Ser Met Gln Leu Leu Asn Gly Asp
        195                 200                 205
```

<210> 37
<211> 805
<212> DNA
<213> Glycine max

<400> 37

```
aaaaaaccat gcaactcatc atctcatgat cctgaagtga gaaagggacc atggaccatg  60
gaagaagact tgatcttgat aaactatatt gcaaatcacg gtgaaggtgt ttggaactcc 120
ttagccaaag cttctggtct caaacgaacg ggaaagagtt gtcgactccg ttggctaaac 180
taccttcgtc ctgatgttag aagaggaaac attacacccg aggaacagct tttgatcata 240
gaacttcatg caaagtgggg caataggtgg tccaaaattg caaagcatct tccaggaaga 300
actgacaatg agattaagaa cttctggaga acaaggatcc aaaagcacat taagcaagct 360
gagacttcac aacaacatgg taattcagag aataatgatc atcaagcaag cactagtact 420
agcaaagtgt ccaccatggc acatccaaat gagactttct ctccaccctc ataccaagga 480
acttttgagc cattccaacc tcaattccct acaatcactg atcaatcaag ttgttgtacc 540
accaccaacg acaacaacaa ctattggagc atcgaggata tctggtcgtc tatgcaatta 600
ctcaatggag attaaaccta gctatatgca tgcctatata aatcatatat atgatgatat 660
ataaacctaa gctcttgtag agtgtgttca ggcttaataa catcattagg tctgtttata 720
tgagtagtct aagtttggtg tttgtaatgc atgatgtgag ttaagaatta atttagttat 780
ggttggaaaa aaaaaaaaaa aaaaa                                      805
```

<210> 38
<211> 204
<212> PRT
<213> Glycine max

<400> 38

```
Lys Lys Pro Cys Asn Ser Ser Ser His Asp Pro Glu Val Arg Lys Gly
  1               5                  10                  15
```

```
Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile Ala Asn
            20                  25                  30

His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ser Gly Leu Lys
        35                  40                  45

Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro
    50                  55                  60

Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile Ile
65                  70                  75                  80

Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys His
                85                  90                  95

Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe Trp Arg Thr Arg
            100                 105                 110

Ile Gln Lys His Ile Lys Gln Ala Glu Thr Ser Gln Gln His Gly Asn
        115                 120                 125

Ser Glu Asn Asn Asp His Gln Ala Ser Thr Ser Thr Ser Lys Val Ser
    130                 135                 140

Thr Met Ala His Pro Asn Glu Thr Phe Ser Pro Pro Ser Tyr Gln Gly
145                 150                 155                 160

Thr Phe Glu Pro Phe Gln Pro Gln Phe Pro Thr Ile Thr Asp Gln Ser
                165                 170                 175

Ser Cys Cys Thr Thr Thr Asn Asp Asn Asn Asn Tyr Trp Ser Ile Glu
            180                 185                 190

Asp Ile Trp Ser Ser Met Gln Leu Leu Asn Gly Asp
        195                 200
```

<210> 39
<211> 751
<212> DNA
<213> Glycine max

<400> 39
tggatgttaa gaaaggtggg tctgtagtac aagcacaagt gaagttgcag aagcataacg 60
aaaaggagat gggcatgaga aaaggtccat gggcggttga ggaggacacc attctggtca 120
attacatcgc cacacacggt gaaggccact ggaattccgt ggcacgatgt gcaggtctaa 180
ggaggagtgg gaagagttgc agattaaggt ggctaaacta cttgcgccca gacgtgcggc 240
gtggaaatat cacactccaa gaacaaatat taattctcga ccttcactct cgctggggca 300
acaggtggtc aaagattgct caacagctgc caggaagaac agacaacgaa ataaagaact 360
attggaggac cagagtgata aaacaagcga agcagctaaa gtgcgatgtg aatagcaaac 420
agttcagaga cacgttgcgt tacgtttgga tgccgcgctt gctggagcgg cttcagccca 480
catcacaagc actggagcca aaccaaagtg gacttgtgtt acacgcttca tcatcactgc 540
ttccttcgaa ttccgaccat agtattgaaa gggggtcgga tctgtggcca ggtttcaata 600
accaaatgtt gttggaacag gggagtggcg gtgacttgtt ggaaagtttg tgggatgacg 660
acaatatgtg ctttttgcaa cagctttctt atgacctcca aatgaaataa aatacaattc 720
ccttccgtca cgcaaaaaaa aaaaaaaaaa a 751

<210> 40
<211> 235
<212> PRT
<213> Glycine max

<400> 40
Asp Val Lys Lys Gly Gly Ser Val Val Gln Ala Gln Val Lys Leu Gln
1 5 10 15

Lys His Asn Glu Lys Glu Met Gly Met Arg Lys Gly Pro Trp Ala Val
20 25 30

Glu Glu Asp Thr Ile Leu Val Asn Tyr Ile Ala Thr His Gly Glu Gly
35 40 45

His Trp Asn Ser Val Ala Arg Cys Ala Gly Leu Arg Arg Ser Gly Lys
50 55 60

Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg
65 70 75 80

Gly Asn Ile Thr Leu Gln Glu Gln Ile Leu Ile Leu Asp Leu His Ser
85 90 95

Arg Trp Gly Asn Arg Trp Ser Lys Ile Ala Gln Gln Leu Pro Gly Arg
100 105 110

Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr Arg Val Ile Lys Gln
115 120 125

Ala Lys Gln Leu Lys Cys Asp Val Asn Ser Lys Gln Phe Arg Asp Thr
130 135 140

Leu Arg Tyr Val Trp Met Pro Arg Leu Leu Glu Arg Leu Gln Pro Thr
145 150 155 160

Ser Gln Ala Leu Glu Pro Asn Gln Ser Gly Leu Val Leu His Ala Ser
165 170 175

Ser Ser Leu Leu Pro Ser Asn Ser Asp His Ser Ile Glu Arg Gly Ser
180 185 190

Asp Leu Trp Pro Gly Phe Asn Asn Gln Met Leu Leu Glu Gln Gly Ser
195 200 205

Gly Gly Asp Leu Leu Glu Ser Leu Trp Asp Asp Asp Asn Met Cys Phe
210 215 220

Leu Gln Gln Leu Ser Tyr Asp Leu Gln Met Lys
225 230 235

<210> 41
<211> 500
<212> DNA
<213> Glycine max

<400> 41
catttctaat tgttctgatc catatatatc atactttctt tgtaataact taaagaaccc 60
cacaaaaaca ccaaccatgt ccacaattgc aaagagagat ttgagttcta atgaagaaga 120
gagtgagctg agaagaggtc cttggactct tgaagaagac agcttactca tacactatat 180
tgctcgtcat ggtgaaggcc gttggaatat gttagccaaa agtgcaggat tgaagaggac 240
tggaaaaagt tgcagactta gatggctgaa ttatttgaaa ccagacatta agagagggaa 300
cctcactcca caggagcaac tcttgatcct tgaactccat tccaagtggg gtaacaggtg 360
gtcaaaaatt gctcagcatc tgccaggaag aacagacaat gagatcaaga actattggag 420
aacaaggata cagaaacagg gcacgccaac ttaacattga atctggtagc aagagattca 480

ttgatgctgt cagtgttttt 500

<210> 42
<211> 229
<212> PRT
<213> Glycine max

<220>
<221> UNSURE
<222> (138)
<223> Xaa can be any naturally occurring amino acid

<400> 42
Met Ser Thr Ile Ala Lys Arg Asp Leu Ser Ser Asn Glu Glu Glu Ser
1 5 10 15

Glu Leu Arg Arg Gly Pro Trp Thr Leu Glu Glu Asp Ser Leu Leu Ile
20 25 30

His Tyr Ile Ala Arg His Gly Glu Gly Arg Trp Asn Met Leu Ala Lys
35 40 45

Ser Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu
50 55 60

Asn Tyr Leu Lys Pro Asp Ile Lys Arg Gly Asn Leu Thr Pro Gln Glu
65 70 75 80

Gln Leu Leu Ile Leu Glu Leu His Ser Lys Trp Gly Asn Arg Trp Ser
85 90 95

Lys Ile Ala Gln His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn
100 105 110

Tyr Trp Arg Thr Arg Ile Gln Lys Gln Ala Arg Gln Leu Asn Ile Glu
115 120 125

Ser Gly Ser Lys Arg Phe Ile Asp Ala Xaa Lys Cys Phe Trp Met Pro
130 135 140

Arg Leu Leu Gln Lys Met Glu Gln Ser Asn Ser Pro Ser Pro His His
145 150 155 160

Ser Ser Met Thr Asn Met Met Asn Leu Gly Asn Ser Gly Glu Ala Ser
165 170 175

Met Ser Ser Met Ser Ser Ser Phe Asn Ile Asn Pro Ser Met Ser Ser
180 185 190

Ser Ser Ser Pro Pro Lys Gly Asn Leu Leu Trp Met Met Pro Asn His
195 200 205

Phe Lys Tyr Tyr Val Gln Pro His Gln Ser Ile Pro Arg Phe Leu Pro
210 215 220

Ile Phe Thr Ala Thr
225

<210> 43
<211> 1348
<212> DNA

<213> Glycine max

<400> 43
tacctctcca accaagacca atttgaaaac ctcttcaatc caacaaacaa acgttctccc 60
ttttgttctg agagaatcaa tggatggaaa aggagcaaga agtagcaaca ccctttaag 120
tagtgaggac gagatggacc ttcgaagagg cccttggacc gtcgatgaag acctcactct 180
tatcaattac gttgccactc atggcgaagg tcgctggaat accctcgccc tctctgctgg 240
gctgaaacga acggggaaga gttgcagatt gaggtggctg aattatctgc gtcctgatgt 300
tcgacgtgga aacatcacgc ttgaagaaca acttttgatt ctggagctcc attctcgctg 360
gggaaaccga tggtcgaaaa ttgctcaata tttgcctggt agaaccgaca atgagataaa 420
gaactattgg agaacccgtg tccaaaagca tgccaagcaa ctcaaatgcg acgtgaatag 480
caagcaattc aaggacacca tgcgttacat ttggatgcca aggctcgtgg aacgcattca 540
agccaccgct gccgcctccg caccacaacc cgttaccgta ccaccgcgac caacaatgca 600
tacacctacg gaagcaacct taataacaac aaattcgagg ttcacgatca caagggcaaa 660
atggggttaa ccgatccttc agttatgaac aatgacttaa tgggttcaca tgtcacgcaa 720
agttacaccc ctgagaatag tagcaccggt gcgtcatcat cagactcgtt tgggactcaa 780
gtctcagcaa tttctgattt gactgaatat tacactgtca ctggtagtgg taacaataac 840
aatactaatt ctgcggatta ttatcaaccc tctcaaatta gttactcgga tagttgcatc 900
acaagcccat ctgggttgtt ccctcaaggg ctagattttc aatccatgga tccaaacacc 960
ccgtggaaca tgcaaagtgg ggactcctct gacagttttt ggaacgttga aagcatgttg 1020
ttcttagagc agcaactcat gaatgacaac atgtgaaaac attgggaata ggaaaataag 1080
acttagatac ggttcttctt agtattgtgt tttaattaaa gttaaagtta acacaagtta 1140
ttgaagtgaa actttaattt taattgaata ataatactga aaacaagagt tgtatttaag 1200
ttttattctt ttatgaatta tgaattagat tgacagaagg ggttgtttgt gaaatataca 1260
ggtgaaagta tagaaagtag caacattaat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1320
aaaaaaaaaa aaaaaaaaaa aaaaaaaa 1348

<210> 44
<211> 196
<212> PRT
<213> Glycine max

<400> 44
Met Asp Gly Lys Gly Ala Arg Ser Ser Asn Thr Leu Leu Ser Ser Glu
1 5 10 15

Asp Glu Met Asp Leu Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Leu
20 25 30

Thr Leu Ile Asn Tyr Val Ala Thr His Gly Glu Gly Arg Trp Asn Thr
35 40 45

Leu Ala Leu Ser Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu
50 55 60

Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Ile Thr
65 70 75 80

Leu Glu Glu Gln Leu Leu Ile Leu Glu Leu His Ser Arg Trp Gly Asn
85 90 95

Arg Trp Ser Lys Ile Ala Gln Tyr Leu Pro Gly Arg Thr Asp Asn Glu
100 105 110

Ile Lys Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys Gln Leu
115 120 125

Lys Cys Asp Val Asn Ser Lys Gln Phe Lys Asp Thr Met Arg Tyr Ile
130 135 140

Trp Met Pro Arg Leu Val Glu Arg Ile Gln Ala Thr Ala Ala Ala Ser

145 150 155 160

Ala Pro Gln Pro Val Thr Val Pro Pro Arg Pro Thr Met His Thr Pro
165 170 175

Thr Glu Ala Thr Leu Ile Thr Thr Asn Ser Arg Phe Thr Ile Thr Arg
180 185 190

Ala Lys Trp Gly
195

<210> 45
<211> 1236
<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (519)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (521)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (530)..(531)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (534)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (800)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (1124)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (1151)
<223> n is a, c, g or t

<400> 45
aacaatccaa ctctctttct ccctatccca acaatctcac tcatacctct tcaatctaac 60
aaacttaatt tcttttgttt tgagtttctt agagaatgga tgaaaaagga gcaagaagta 120
gcaacaccct tttaagttgt gaggacgaga tggaccttcg aagaggccct tggaccgtcg 180
atgaagacct cactcttatc aattacattg ccactcatgg cgaaggtcgc tggaacacgc 240
tcgccctctc tgctgggctg aaacgaacgg ggaagagttg cagattgagg tggctgaatt 300
atctgcgtcc tgatgttcga cgtggaaaca tcacacttga agaacaactt ttgattctgg 360
agcttcattc tcgctgggga aaccgttggt cgaaaattgc tcaatatttg cctggtagaa 420
ccgacaacga gataaagaac tattggagaa cccgtgtcca aaagcatgcc aagcaactca 480
aatgtgacgt gaatagcaag caattcaagg acaccatgng ntacctttgn natnccaagg 540

```
ctcgtggaac gcattcaagc agcggcgacg gcccccgtaa ccaccaccgt aactgcggcc  600
gccaccaaca atgcattcac ctacggraac aaccttatac caccaaattc gaggttctga  660
atcacaaggg cagaatgggg ttaaccgatc cttcagttgc gaacaatgac tttgtgggtt  720
cacatgtcac gcaaaggtac cctactcctg agaatagtag cacgggtgcg tcatcatcag  780
actcgtttgg gactcaagtn tcaacaattt ctgatttgac tgaaaattcc agtgtccctg  840
aaaatactaa ttctgcggat tattatcaac cctctcaaat tagtaattac tcggataatt  900
gcatcacaag cccatctggg ttcttgttcc ctcaaggact agatcttcaa tccatggatc  960
caaacacacc gtggaacatg caaagtgggg actcctctga caatttttgg gacgttgaaa 1020
gcatgttatt cttagagcag caactcatga atgacaacat gtgaaacatt gggaatagga 1080
aaataagact tagatacggt tcttctaata ttttttagtg ktgngtttta attaaagtta 1140
aagttaacac nagttattga agtgaaactt taattttaat taaataataa tcctgaaaaa 1200
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa                           1236
```

<210> 46
<211> 322
<212> PRT
<213> Glycine max

<220>
<221> UNSURE
<222> (142)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (145)..(146)..(147)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (178)
<223> Xaa can be any naturally occurring amino acid

<400> 46

```
Met Asp Glu Lys Gly Ala Arg Ser Ser Asn Thr Leu Leu Ser Cys Glu
  1               5                  10                  15

Asp Glu Met Asp Leu Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Leu
             20                  25                  30

Thr Leu Ile Asn Tyr Ile Ala Thr His Gly Glu Gly Arg Trp Asn Thr
         35                  40                  45

Leu Ala Leu Ser Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu
     50                  55                  60

Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Ile Thr
 65                  70                  75                  80

Leu Glu Glu Gln Leu Leu Ile Leu Glu Leu His Ser Arg Trp Gly Asn
                 85                  90                  95

Arg Trp Ser Lys Ile Ala Gln Tyr Leu Pro Gly Arg Thr Asp Asn Glu
            100                 105                 110

Ile Lys Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys Gln Leu
        115                 120                 125

Lys Cys Asp Val Asn Ser Lys Gln Phe Lys Asp Thr Met Xaa Tyr Leu
    130                 135                 140
```

```
Xaa Xaa Xaa Lys Ala Arg Gly Thr His Ser Ser Ser Gly Asp Gly Pro
145                 150                 155                 160

Arg Asn His His Arg Asn Cys Gly Arg His Gln Gln Cys Ile His Leu
                165                 170                 175

Arg Xaa Gln Pro Tyr Thr Thr Lys Phe Glu Val Leu Asn His Lys Gly
            180                 185                 190

Arg Met Gly Leu Thr Asp Pro Ser Val Ala Asn Asn Asp Phe Val Gly
        195                 200                 205

Ser His Val Thr Gln Arg Tyr Pro Thr Pro Glu Asn Ser Ser Thr Gly
    210                 215                 220

Ala Ser Ser Ser Asp Ser Phe Gly Thr Gln Val Ser Thr Ile Ser Asp
225                 230                 235                 240

Leu Thr Glu Asn Ser Ser Val Pro Glu Asn Thr Asn Ser Ala Asp Tyr
                245                 250                 255

Tyr Gln Pro Ser Gln Ile Ser Asn Tyr Ser Asp Asn Cys Ile Thr Ser
            260                 265                 270

Pro Ser Gly Phe Leu Phe Pro Gln Gly Leu Asp Leu Gln Ser Met Asp
        275                 280                 285

Pro Asn Thr Pro Trp Asn Met Gln Ser Gly Asp Ser Ser Asp Asn Phe
    290                 295                 300

Trp Asp Val Glu Ser Met Leu Phe Leu Glu Gln Gln Leu Met Asn Asp
305                 310                 315                 320

Asn Met
```

<210> 47
<211> 1181
<212> DNA
<213> Glycine max

<400> 47

```
tttcagtgag tgagaatagc catgtctact tcaaagagcg tcagcagttc tagtgaagat   60
gacaatgaac ttagaagagg gccttggact ctggaagagg ataacttgct ctcccaatat  120
atttttaatc atggggaagg gcgatggaat ttgctggcta aacgttcagg attaaagaga  180
actgggaaaa gttgcagatt aaggtggcta aattatctaa agccagatgt aaaacgggga  240
aatttaaccc cacaagagca acttataatt cttgaactcc actcaaagtg gggaaacagg  300
tggtcaaaaa ttgcacaaca tttgccaggc agaacagaca atgaaatcaa gaactattgg  360
agaactagga ttcagaaaca agcaagacat ttgaaaattt acactgacag cagagagttt  420
caagaacttg ttaggcgttt ctggatgcct agattgcttc agaaagcaaa agaatcatct  480
tcttcaaaca tgtcaattca aaaccaggca attcctatgc cttttgatta tgtttctcag  540
catttaactg ttgggaccat acctccttgg cagggacctt gtatgaatga agctggtccc  600
acttacatgg accaacatga gcagactcag actcggaaca ccaacaatgg ttcatgcatc  660
tccttgtctg agtcagcaaa tattccaaaa gtgcctcagc attttggaca caccaccatc  720
acccaatttc atgccttgaa taccaatgac tttggcacct tcacatatga aggttataat  780
gtaaacaaca atgtctatga gatggacaac ttcaaaacga ctactacatg ggtggctgag  840
gatgcgcaat acccaattgg tgattgtcaa atggtaggaa gcaattgggt aaacaacgat  900
tttgcatgta acatgtggaa catggatgaa ctgtggcagt ttagcaagtt acaaaaataa  960
gattttaggg ttttgttttt tttggaataa ccaaaagtcc aaaactcttt ctttgatgac 1020
gttattattg ttatcatgaa ctgtggatta gctaccgaat taattaatac agatggcgat 1080
tgttttctgt acatctgtct tgtattactc tgttcagata agtacttttg taatttgtat 1140
```

tgattgagaa aagtcattaa ttagtcacta gtacaaaaaa a 1181

<210> 48
<211> 312
<212> PRT
<213> Glycine max

<400> 48
Met Ser Thr Ser Lys Ser Val Ser Ser Ser Ser Glu Asp Asp Asn Glu
1 5 10 15

Leu Arg Arg Gly Pro Trp Thr Leu Glu Glu Asp Asn Leu Leu Ser Gln
20 25 30

Tyr Ile Phe Asn His Gly Glu Gly Arg Trp Asn Leu Leu Ala Lys Arg
35 40 45

Ser Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
50 55 60

Tyr Leu Lys Pro Asp Val Lys Arg Gly Asn Leu Thr Pro Gln Glu Gln
65 70 75 80

Leu Ile Ile Leu Glu Leu His Ser Lys Trp Gly Asn Arg Trp Ser Lys
85 90 95

Ile Ala Gln His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
100 105 110

Trp Arg Thr Arg Ile Gln Lys Gln Ala Arg His Leu Lys Ile Tyr Thr
115 120 125

Asp Ser Arg Glu Phe Gln Glu Leu Val Arg Arg Phe Trp Met Pro Arg
130 135 140

Leu Leu Gln Lys Ala Lys Glu Ser Ser Ser Ser Asn Met Ser Ile Gln
145 150 155 160

Asn Gln Ala Ile Pro Met Pro Phe Asp Tyr Val Ser Gln His Leu Thr
165 170 175

Val Gly Thr Ile Pro Pro Trp Gln Gly Pro Cys Met Asn Glu Ala Gly
180 185 190

Pro Thr Tyr Met Asp Gln His Glu Gln Thr Gln Thr Arg Asn Thr Asn
195 200 205

Asn Gly Ser Cys Ile Ser Leu Ser Glu Ser Ala Asn Ile Pro Lys Val
210 215 220

Pro Gln His Phe Gly His Thr Thr Ile Thr Gln Phe His Ala Leu Asn
225 230 235 240

Thr Asn Asp Phe Gly Thr Phe Thr Tyr Glu Gly Tyr Asn Val Asn Asn
245 250 255

Asn Val Tyr Glu Met Asp Asn Phe Lys Thr Thr Thr Thr Trp Val Ala
260 265 270

Glu Asp Ala Gln Tyr Pro Ile Gly Asp Cys Gln Met Val Gly Ser Asn
275 280 285

```
Trp Val Asn Asn Asp Phe Ala Cys Asn Met Trp Asn Met Asp Glu Leu
    290                 295                 300

Trp Gln Phe Ser Lys Leu Gln Lys
305                 310
```

<210> 49
<211> 1186
<212> DNA
<213> Glycine max

<400> 49

```
aattcggcac gaggccatgt ctacttcaaa gagcgtcagc agttctagtg aagatgacaa   60
tgaacttaga agagggcctt ggactcttga agaggataat ttgctctccc aatatatttc  120
tagtcatgga gaagggcgat ggaatttgct agctaaacgt tcaggattaa agcgaactgg  180
gaaaagttgc agattaaggt ggctaaatta tctaaagcca gatgtaaaac ggggaaattt  240
aaccccacaa gagcaactta taatcctcga actccactca aagtggggaa acaggtggtc  300
aaaaattgca caaaatttgc caggcagaac agacaatgaa atcaagaact attggagaac  360
taggattcag aaacaagcaa gacatttgaa aattgacact gacaccagag agtttcagga  420
acttgttagg cgtttctgga tgcctagatg cttcaaaaag cccaagaatc atcttcttca  480
gccatgtcaa ttcaaaacca ggcaactcct atgccttttg atggtgtttc tcagcattca  540
actgttggga ccataccatc acattcacac acccccttggc agggaccttg tatgaatgaa  600
gctggtccca cttacatgga ccaacatgag cagaactcag actctgaaca caacaatggt  660
tcatgcatct ccttgtctga gtcagcaaat tttccaaaag tgcctcagca ttttggacgc  720
accaccatca cccaatatca tgccttgaat aacaatgact ttggcacctt cacatatgac  780
ggctacaatg taagcaacaa tgtctatgag atggacaact tcaaaacgcc tactacaagg  840
gtggctgagg atgcgcaata cccaactggt gattgtcaaa tggtaggaag caattgggta  900
aacagcgatt ttgcatgtaa catgtggaac atggatgaat tgtggcaatt tagcaagtta  960
caaaaataag attttagggt ttggtttttt tggagttacc aagactctat ctttggtgat 1020
gttattattg ttatcatgaa ctgttgatta gctactacca aattaattaa tacagatggt 1080
gattgttttc tgtacatctg ttttgcatta ctctgttttg caatttgtat tgattgagaa 1140
aagtcattaa ttagtcacta gttcaaaaca caaaaaaaaa aaaaaa                 1186
```

<210> 50
<211> 192
<212> PRT
<213> Glycine max

<400> 50

```
Met Ser Thr Ser Lys Ser Val Ser Ser Ser Ser Glu Asp Asp Asn Glu
  1               5                  10                  15

Leu Arg Arg Gly Pro Trp Thr Leu Glu Glu Asp Asn Leu Leu Ser Gln
             20                  25                  30

Tyr Ile Ser Ser His Gly Glu Gly Arg Trp Asn Leu Leu Ala Lys Arg
         35                  40                  45

Ser Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
     50                  55                  60

Tyr Leu Lys Pro Asp Val Lys Arg Gly Asn Leu Thr Pro Gln Glu Gln
 65                  70                  75                  80

Leu Ile Ile Leu Glu Leu His Ser Lys Trp Gly Asn Arg Trp Ser Lys
                 85                  90                  95

Ile Ala Gln Asn Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
            100                 105                 110
```

```
Trp Arg Thr Arg Ile Gln Lys Gln Ala Arg His Leu Lys Ile Asp Thr
        115                 120                 125

Asp Thr Arg Glu Phe Gln Glu Leu Val Arg Arg Phe Trp Met Pro Arg
    130                 135                 140

Cys Phe Lys Lys Pro Lys Asn His Leu Leu Gln Pro Cys Gln Phe Lys
145                 150                 155                 160

Thr Arg Gln Leu Leu Cys Leu Leu Met Val Phe Leu Ser Ile Gln Leu
                165                 170                 175

Leu Gly Pro Tyr His His Ile His Thr Pro Leu Gly Arg Asp Leu Val
            180                 185                 190
```

<210> 51
<211> 487
<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (358)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (429)
<223> n is a, c, g or t

<400> 51
gagaaataaa aagagaagaa agaaaacacg atagtatcat catatcacca ccacacacat 60
agatagagag aggaaaacga cctatatttt ttttcctttg agagcttcag gggctaggaa 120
aattagaagg acagccacaa gtataaaggc ggtgaaataa aagagaaaga caagaaggag 180
acatgggaag accaccttgt tgtgacaaag aaggggtcaa gaaagggcct tggactcctg 240
aagaagacat catattggtg tcttatattc aggaacatgg tcctggaaat tggagggcag 300
ttcctgccaa aacagggttg tcaagatgca gcaagagttg cagacttaga tggacgantt 360
acctgaggcc aggaatcaag cgtggtaact tcacaagaac aagaggagaa gatgataatc 420
catcttcang atcttttagg aaacagatgg ggtgcaatag cttcatacct tccacaaagg 480
acaaggg 487

<210> 52
<211> 90
<212> PRT
<213> Glycine max

<220>
<221> UNSURE
<222> (59)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (72)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (83)
<223> Xaa can be any naturally occurring amino acid

<400> 52
Met Gly Arg Pro Pro Cys Cys Asp Lys Glu Gly Val Lys Lys Gly Pro
1 5 10 15

Trp Thr Pro Glu Glu Asp Ile Ile Leu Val Ser Tyr Ile Gln Glu His
20 25 30

Gly Pro Gly Asn Trp Arg Ala Val Pro Ala Lys Thr Gly Leu Ser Arg
35 40 45

Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Xaa Tyr Leu Arg Pro Gly
50 55 60

Ile Lys Arg Gly Asn Phe Thr Xaa Glu Gln Glu Glu Lys Met Ile Ile
65 70 75 80

His Leu Xaa Asp Leu Leu Gly Asn Arg Trp
85 90

<210> 53
<211> 1556
<212> DNA
<213> Glycine max

<400> 53
gcacgaggag aaataaaaag agaagaaaga aaacacgata gtatcatcat atcaccacca 60
cacacataga tagagagagg aaaacgacct atatttttt tcctttgaga gcttcagggg 120
ctaggaaaat tagaaggaca gccacaagta taaaggcggt gaaataaaag agaaagacaa 180
gaaggagaca tgggaagacc accttgttgt gacaaagaag gggtcaagaa agggccttgg 240
actcctgaag aagacatcat attggtgtct tatattcagg aacatggtcc tggaaattgg 300
agggcagttc ctgccaaaac agggttgtca agatgcagca agagttgcag acttagatgg 360
acgaattacc tgaggccagg aatcaagcgt ggtaacttca cagaacaaga ggagaagatg 420
ataatccatc ttcaagatct tttaggaaac agatgggctg caatagcttc ataccttcca 480
caaagaacag acaatgacat aaagaactat tggaataccc atttgagaaa gaagctgaag 540
aagatgcaag caggcggtga aggtggtagc tttggagaag ggttttcagc ctcaaggcaa 600
atccctagag gccagtggga aagaaggctc caaactgata tccaaatggc aaagagagcc 660
ctcagtgaag ctctttcacc agagaaaaag ccatcttgtt tatctgcctc aaactcaaac 720
ccttcagata gtagcagctc cttctcttcc acaaaaccaa caacaacaca atctgtgtgc 780
tatgcatcaa gtgctgacaa catagctaga atgctcaagg gttggatgaa gaacccacca 840
aagtcctcaa gaaccaactc gtctatgact cagaactcat tcaacaactt agcaggtgct 900
gatactgctt gtagtagtgg agcaaaggga ccactaagca gtgccgaatt gtctgagaat 960
aattttgaat ccttgtttga ttttgatcag tctttggagt cttcaaactc tgatcaattc 1020
tctcagtcct tgtctcctga ggccactgtt ttgcaagatg aaagcaagcc tgatattaat 1080
attgctgcag aaattatgcc cttctctttg cttgagaaat ggctccttga tgaggcaggt 1140
tgccaagaga aattagttgg ttgttgtggt gatgccaagt ttttctaagt tgggttcatt 1200
ttgtgacata tgagactgtg ggatttttt attttatttt attttatttc ataagttata 1260
ggtagggcct catcaattaa tctcgcttcg gccttattag agagagaagt tttccagcct 1320
ttggtgctag acgtgtatat gttaattatt attgacatta tgatgattat tatcatactg 1380
tgttagttgc catacactgg caaacttgct tctcttatgt aaagttgatc ttgcgacgag 1440
atcctgcttt atggctttag gcagcgcgac cggtcttctc tctttgtgtc gcttgattag 1500
taaccccccc cgggggggcc ccgggtccaa atcccccta atggggtcct ttttag 1556

<210> 54
<211> 332
<212> PRT
<213> Glycine max

<400> 54
Met Gly Arg Pro Pro Cys Cys Asp Lys Glu Gly Val Lys Lys Gly Pro
1 5 10 15

```
Trp Thr Pro Glu Glu Asp Ile Ile Leu Val Ser Tyr Ile Gln Glu His
            20                  25                  30

Gly Pro Gly Asn Trp Arg Ala Val Pro Ala Lys Thr Gly Leu Ser Arg
        35                  40                  45

Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Gly
    50                  55                  60

Ile Lys Arg Gly Asn Phe Thr Glu Gln Glu Glu Lys Met Ile Ile His
65                  70                  75                  80

Leu Gln Asp Leu Leu Gly Asn Arg Trp Ala Ala Ile Ala Ser Tyr Leu
                85                  90                  95

Pro Gln Arg Thr Asp Asn Asp Ile Lys Asn Tyr Trp Asn Thr His Leu
            100                 105                 110

Arg Lys Lys Leu Lys Lys Met Gln Ala Gly Gly Glu Gly Gly Ser Phe
        115                 120                 125

Gly Glu Gly Phe Ser Ala Ser Arg Gln Ile Pro Arg Gly Gln Trp Glu
    130                 135                 140

Arg Arg Leu Gln Thr Asp Ile Gln Met Ala Lys Arg Ala Leu Ser Glu
145                 150                 155                 160

Ala Leu Ser Pro Glu Lys Lys Pro Ser Cys Leu Ser Ala Ser Asn Ser
                165                 170                 175

Asn Pro Ser Asp Ser Ser Ser Ser Phe Ser Ser Thr Lys Pro Thr Thr
            180                 185                 190

Thr Gln Ser Val Cys Tyr Ala Ser Ser Ala Asp Asn Ile Ala Arg Met
        195                 200                 205

Leu Lys Gly Trp Met Lys Asn Pro Pro Lys Ser Ser Arg Thr Asn Ser
    210                 215                 220

Ser Met Thr Gln Asn Ser Phe Asn Asn Leu Ala Gly Ala Asp Thr Ala
225                 230                 235                 240

Cys Ser Ser Gly Ala Lys Gly Pro Leu Ser Ser Ala Glu Leu Ser Glu
                245                 250                 255

Asn Asn Phe Glu Ser Leu Phe Asp Phe Asp Gln Ser Leu Glu Ser Ser
            260                 265                 270

Asn Ser Asp Gln Phe Ser Gln Ser Leu Ser Pro Glu Ala Thr Val Leu
        275                 280                 285

Gln Asp Glu Ser Lys Pro Asp Ile Asn Ile Ala Ala Glu Ile Met Pro
    290                 295                 300

Phe Ser Leu Leu Glu Lys Trp Leu Leu Asp Glu Ala Gly Cys Gln Glu
305                 310                 315                 320

Lys Leu Val Gly Cys Cys Gly Asp Ala Lys Phe Phe
                325                 330
```

<210> 55

<211> 357
<212> DNA
<213> Triticum aestivum

<220>
<221> unsure
<222> (259)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (307)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (319)
<223> n is a, c, g or t

<400> 55
gccaaagtat caggtttgag gggtggggga tccaaaaatt aggtagctat attgaagtat 60
tttgcgcaaa gtcgcaacaa caaatgtcac ctttgctaat aactttcttc ttgcttcaac 120
ctctgtaatc tccatgcagg cctcaaccgc acaggaaaga gctgtcgcct ccggtgggtt 180
aactacctcc accctgggcc taaagcgtgg gcgcatgact ccccatgaaa gaacgcctca 240
tcctccaact ccatgctcng tggggaaaca agtggtccaa ggataacacg gaactgccaa 300
ggcgtancga caatgaatna aagaactact gggagaacac atttgaggaa aaggaag 357

<210> 56
<211> 54
<212> PRT
<213> Triticum aestivum

<220>
<221> UNSURE
<222> (21)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (27)..(28)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (41)
<223> Xaa can be any naturally occurring amino acid

<400> 56
Ala Gly Leu Asn Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Val Asn
1 5 10 15

Tyr Leu His Pro Xaa Leu Lys Arg Gly Arg Xaa Xaa Pro Met Lys Glu
20 25 30

Arg Leu Ile Leu Gln Leu His Ala Xaa Trp Gly Asn Lys Trp Ser Lys
35 40 45

Asp Asn Thr Glu Leu Pro
50

<210> 57

<211> 1072
<212> DNA
<213> Triticum aestivum

<400> 57
gcacgaggcc aaagtatcag gtttgagggg tgggggatcc aaaaattagg tagctatatt 60
gaagtatttt gcgcaaagtc gcaacaacaa atgtcacctt tgctaataac tttcttcttg 120
cttcaacctc tgtaatctcc atgcaggcct caaccgcaca ggaaagagct gtcgcctccg 180
gtgggttaac tacctccacc ctggcctaaa gcgtgggcgc atgactcccc atgaagaacg 240
cctcatcctc gagctccatg ctcggtgggg aaacaggtgg tccaggatag cacggaagct 300
gccagggcgt accgacaatg agatcaagaa ctactggaga acacatatga ggaagaaagc 360
acaggagagg aagaggagcg tgtcaccctc accatcttca tcctcagtga cataccaatc 420
cattcagcca cagacgccat cgatcatggg aattggcgag caggaacttc atggtggcag 480
tagctgcatc acaagcatat tgaagggcac gcctgctgac atggatggat acctcatgga 540
tcagatatgg atggagattg aggcaccctc tggggtcaac tttcatgacg ggaaggataa 600
ttcatacagc agcccctctg gccctctgct gccatcaccg atgtgggatt actacagccc 660
tgaggcaggc tggaagatgg atgagataaa gatggcccca caagttagct acagtaaagg 720
aattggcccc agttattgaa gccatatata ttgtatcaga ttactaagtt acttgcaacc 780
tagcagaagt gaaatgcttt tgttgaaaga accattagca tggatctaaa aaatatttat 840
atctatctag cattccaagt gtgctcatgt tttatgtatc tactatgtag catctagtgt 900
gcaagacatg taatgcaagg acacttccac tttgtattca caataatcag ctatctcctg 960
taagactttt ccaatgcaaa catgattagc aggtgtaata tcaacttaaa tgcttgccaa 1020
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1072

<210> 58
<211> 198
<212> PRT
<213> Triticum aestivum

<400> 58
Ala Gly Leu Asn Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Val Asn
1 5 10 15

Tyr Leu His Pro Gly Leu Lys Arg Gly Arg Met Thr Pro His Glu Glu
20 25 30

Arg Leu Ile Leu Glu Leu His Ala Arg Trp Gly Asn Arg Trp Ser Arg
35 40 45

Ile Ala Arg Lys Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
50 55 60

Trp Arg Thr His Met Arg Lys Lys Ala Gln Glu Arg Lys Arg Ser Val
65 70 75 80

Ser Pro Ser Pro Ser Ser Ser Ser Val Thr Tyr Gln Ser Ile Gln Pro
85 90 95

Gln Thr Pro Ser Ile Met Gly Ile Gly Glu Gln Glu Leu His Gly Gly
100 105 110

Ser Ser Cys Ile Thr Ser Ile Leu Lys Gly Thr Pro Ala Asp Met Asp
115 120 125

Gly Tyr Leu Met Asp Gln Ile Trp Met Glu Ile Glu Ala Pro Ser Gly
130 135 140

Val Asn Phe His Asp Gly Lys Asp Asn Ser Tyr Ser Ser Pro Ser Gly
145 150 155 160

Pro Leu Leu Pro Ser Pro Met Trp Asp Tyr Tyr Ser Pro Glu Ala Gly

165 170 175

Trp Lys Met Asp Glu Ile Lys Met Ala Pro Gln Val Ser Tyr Ser Lys
180 185 190

Gly Ile Gly Pro Ser Tyr
195

<210> 59
<211> 521
<212> DNA
<213> Triticum aestivum

<220>
<221> unsure
<222> (108)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (355)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (361)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (392)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (414)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (431)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (434)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (447)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (456)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (459)

<223> n is a, c, g or t

<400> 59
cttggatcct ccactagcta cgtcgtccat ggatgtggtg ctgcagagtc gtagcagcaa 60
cagcatggcg gcggagccgg aggaggaggc ggaccggagg aggaggcngg agctccggcg 120
agggccgtgg acggtggacg aggaccttac gctgatcaac tacatcgcgg accacggcga 180
gggccgctgg aacgcgctgg cgcgggccgc cggcctgagg cgcacgggga agagctgccg 240
gctgcggtgg ctgaactacc tccgccccga cgtgaagcgc ggcaacttca ccgccgacga 300
gcagctcctc atcctcgacc tccactctcg ctggggcaac cggtggtcga agatngcgca 360
ncacctcccg ggtcggacgg acaacgaaga tnaaagaact actgggagga ccanggtgca 420
aaaagcacgc naancaactc aactgcnaac tccggnaanc gcaaccttta aaggatgcca 480
ataaggtacc tctggatgcc tcgcctctca acgcatcaac c 521

<210> 60
<211> 131
<212> PRT
<213> Triticum aestivum

<220>
<221> UNSURE
<222> (27)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (109)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (111)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (122)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> UNSURE
<222> (129)
<223> Xaa can be any naturally occurring amino acid

<400> 60
Met Asp Val Val Leu Gln Ser Arg Ser Ser Asn Ser Met Ala Ala Glu
1 5 10 15

Pro Glu Glu Glu Ala Asp Arg Arg Arg Arg Xaa Glu Leu Arg Arg Gly
20 25 30

Pro Trp Thr Val Asp Glu Asp Leu Thr Leu Ile Asn Tyr Ile Ala Asp
35 40 45

His Gly Glu Gly Arg Trp Asn Ala Leu Ala Arg Ala Ala Gly Leu Arg
50 55 60

Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro
65 70 75 80

Asp Val Lys Arg Gly Asn Phe Thr Ala Asp Glu Gln Leu Leu Ile Leu
85 90 95

```
Asp Leu His Ser Arg Trp Gly Asn Arg Trp Ser Lys Xaa Ala Xaa His
            100                 105                 110

Leu Pro Gly Arg Thr Asp Asn Glu Asp Xaa Arg Thr Thr Gly Arg Thr
        115                 120                 125

Xaa Val Gln
    130
```

<210> 61
<211> 464
<212> DNA
<213> Triticum aestivum

<220>
<221> unsure
<222> (435)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (442)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (450)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (457)
<223> n is a, c, g or t

<400> 61

```
agcgggcgag acgtgagcat ggggaggccg ccgtgctgcg acaaggaggg cgtcaagaag  60
ggcccctgga cgccggagga ggacctcgtg ctcgtctcct acgtccagga gcacggcccc 120
ggcaactggc gcgccgtccc caccaggacc ggcctgatgc ggtgtagcaa gagctgccgg 180
ctccggtgga ccaactacct gcgcccaggg atcaagcgcg gcaacttcac cgaccaggag 240
gagaagctca tcgtccacct ccaggcgctg ctcggcaaca ggtgggccgc gatcgcctcc 300
tacctccccg agcgcaccga caacgacatc aagaactact ggaacacgca actcaagcgc 360
aagctgcaag cgggggggcga cgccgcgggc aaaccggcgg cgcaaaggct gctcctcctc 420
aaagggcaat ggganaggcg gngcagacgn catcaanatg cgcc                   464
```

<210> 62
<211> 122
<212> PRT
<213> Triticum aestivum

<400> 62

```
Met Gly Arg Pro Pro Cys Cys Asp Lys Glu Gly Val Lys Lys Gly Pro
  1               5                  10                  15

Trp Thr Pro Glu Glu Asp Leu Val Leu Val Ser Tyr Val Gln Glu His
             20                  25                  30

Gly Pro Gly Asn Trp Arg Ala Val Pro Thr Arg Thr Gly Leu Met Arg
         35                  40                  45

Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Gly
```

```
     50                  55                  60

Ile Lys Arg Gly Asn Phe Thr Asp Gln Glu Glu Lys Leu Ile Val His
 65                  70                  75                  80

Leu Gln Ala Leu Leu Gly Asn Arg Trp Ala Ala Ile Ala Ser Tyr Leu
                 85                  90                  95

Pro Glu Arg Thr Asp Asn Asp Ile Lys Asn Tyr Trp Asn Thr Gln Leu
            100                 105                 110

Lys Arg Lys Leu Gln Ala Gly Gly Asp Ala
        115                 120
```

<210> 63
<211> 217
<212> PRT
<213> Pisum sativum

<400> 63

```
Met Asp Lys Lys Pro Cys Asn Ser Ser Gln Asp Pro Glu Val Arg Lys
  1               5                  10                  15

Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile Ala
             20                  25                  30

Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly Leu
         35                  40                  45

Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg
     50                  55                  60

Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile
 65                  70                  75                  80

Met Glu Leu His Ser Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys
                 85                  90                  95

His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe Trp Arg Thr
            100                 105                 110

Arg Ile Gln Lys His Ile Lys Gln Val Asp Asn Pro Asn Gln Gln Asn
        115                 120                 125

Phe Gln Gln Lys Met Ser Leu Glu Ile Asn Asp His His His His His
    130                 135                 140

Pro His Gln Pro Ser Ser Ser Gln Val Ser Asn Leu Val Glu Pro Met
145                 150                 155                 160

Glu Thr Tyr Ser Pro Thr Ser Tyr Gln Gly Thr Leu Glu Pro Phe Pro
                165                 170                 175

Thr Gln Phe Pro Thr Ile Asn Asn Asp His His Gln Asn Ser Asn Cys
            180                 185                 190

Cys Ala Asn Asp Asn Asn Asn Asn Asn Tyr Trp Ser Met Glu Asp Ile
        195                 200                 205

Trp Ser Met Gln Leu Leu Asn Gly Asp
    210                 215
```